DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
Washington, DC 20314-1000

ETL 1110-3-492

CEMP-ET

Technical Letter
No. 1110-3-492

12 August 1998

Engineering and Design
YEAR 2000 (Y2K) COMPLIANCE AND ACCEPTANCE PROCEDURES

1. Purpose. This engineer technical letter (ETL) provides guidance for including Y2K compliance requirements in all construction contracts and procedures for verifying compliance during acceptance testing.

2. Applicability. This ETL applies to all HQUSACE elements and USACE commands having military construction and design responsibility.

3. References.

a. Federal Acquisition Regulation (FAR), parts 39.002 and 39.106.

b. ER 1110-345-100

4. Distribution. Approved for public release; distribution is unlimited.

5. Background. Computer systems and equipment that contain embedded microprocessors may fail or operate improperly due to the Y2K computer problem. Many older hardware systems and software programs use only two digits to identify the calendar year, for instance, 98 instead of 1998. In the year 2000, computers, microprocessors, and programs based on a two-digit year identifier may interpret the year as 1900, or some personal computers may interpret 2000 as 1980. Modern buildings and facilities include many types of equipment and systems that could be affected by the Y2K problem because they rely on date and time calculations. These systems include, but are not limited to, elevator controls, heating ventilation and air conditioning (HVAC) controls, utility monitoring and control systems, fire alarm systems, electronic security systems, and many other related systems that control building environments or subsystems or are used for process control.

6. Guidance. The referenced FAR paragraphs define Y2K compliance and require that agencies ensure that all solicitations and contracts require information technology to be Year 2000 compliant if it will be required to perform date/time processing involving dates subsequent to December 31, 1999. The FAR defines Y2K compliance as accurately processing date/time from, into, and between the 20^{th} and 21^{st} centuries, including leap year calculations. Information technology means any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information, and includes

computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. To assure that all components, equipment, systems, and associated software, middleware, and firmware included in construction contracts are Y2K compliant, the following guidelines must be followed:

a. All construction contracts must contain Y2K compliance clauses in accordance with procurement policy at appendices A and B.

b. Existing construction contracts that do not have Y2K compliance clauses must be modified to require Y2K compliance in accordance with procurement policy at Appendices A and B if they contain any information technology.

c. Assure that for certain high technology electronic systems, such as electronic security and utility monitoring and control systems, that require a factory or field test, that a comprehensive Y2K compliance test is included in all factory and field tests.

d. High priority systems, such as fire alarm and other life safety systems, electronic security, environment and health systems, and mission critical systems, must be field tested for Y2K compliance prior to government acceptance. The contract shall include a requirement for the contractor to develop a Y2K validation test procedure and perform the validation test on each individual component or piece of equipment. In those cases where individual components or equipment are interconnected as a system or subsystem, the entire system or subsystem will also be tested. If there is an interface where time and date data is transferred to any other equipment or system, whether existing or contractor installed, the interface will be included in the system validation test. All test procedures require government approval prior toY2K validation testing, and a government representative must witness all testing.

e. Technical assistance for reviewing contractor submitted test procedures may be obtained from the appropriate center of expertise. A listing of centers of expertise, including points of contact, proponent, and mission area is on the USACE web site, which is located at:
http://www.usace.army.mil/inet/functions/cw/cecwe/coexpert/newcoe/coemain.htm.

If there is no center of expertise for a particular item or system, technical review assistance may be obtained from the Electronic Security Systems or the Utility Monitoring and Control Systems Mandatory Center of Expertise. Review assistance from the centers of expertise will be accomplished on a reimbursable basis. Contact the appropriate center well in advance of need date for schedule and budgeting purposes.

7. Technical Guidance.

a. Minimum Test Requirements. As a minimum, all equipment and systems will be tested to assure that they correctly calculate critical Y2K dates, including, but not limited to:

(1) 1 January 2000

(2) 29 February 2000 - Required because 1900 was not a leap year.

(3) 9 April 1999 - 99th day of the year, which may be 9999 in the Julian calendar, which may be interpreted as an error code.

(4) 9 September 1999 - In systems using day, month, year date format, date may be 9999, which may be interpreted as an error code.

(5) 10 January 2000 - The first date that requires 7 characters.

(6) 10 October 2000 - The first date that requires 8 characters.

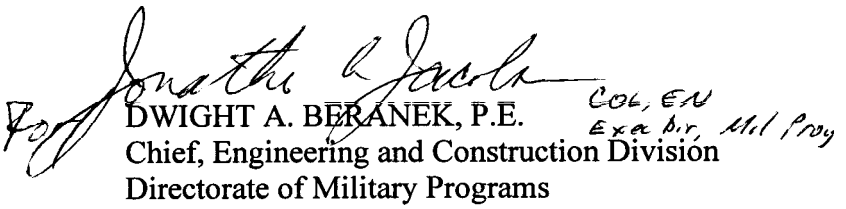
Each item and system will be tested to assure that the above dates are calculated correctly when they are encountered while the equipment is powered up and functioning properly, and that they will return to the correct date after the date is encountered and the equipment is powered down and restarted.

b. High Priority Systems. High priority systems are defined as those systems that affect safety, security, and the installation's ability to accomplish its core wartime mission. In all projects, electronic security, entry control systems, fire alarm systems, and other automated systems that are essential to facility operation are considered to be high priority systems. In medical projects, many other systems may be considered high priority systems because they could affect life safety, such as, emergency generators, uninterruptible power supplies, HVAC systems and controls, elevators, and lighting controls. Other high priority systems may include water supply treatment and distribution systems, and wastewater collection, treatment, and disposal systems.

8. Action. The guidance included in this technical letter shall be used for the planning, design, and construction of new and renovated facilities to incorporate Y2K compliant equipment and systems into all projects.

9. Implementation. This letter will have immediate application as defined in paragraph 6c, ER 1110-345-100.

FOR THE DIRECTOR OF MILITARY PROGRAMS:



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2 Appendices
App A - USACE Procurement Policy
App B - Department of the Army
Procurement Policy